



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

Management Division
2 State Fish Pier
Gloucester, MA 01966

Superfund Records Center

SITE: NEW BEDFORD

BREAK: 04.04

OTHER: 49697

November 28, 1986 F/NER741:SM

Mr. Frank Ciavattierri
U.S. Environmental Protection Agency
Waste Management Division
HSL - 1907
J.F.K. Federal Building
Boston, MA 02203



SDMS DocID **49697**

Dear Mr. Ciavattierri:

This is in reference to the proposed pilot study of dredging and disposal alternatives and the proposed wetland evaluation of the in-harbor containment alternative for the New Bedford Harbor/Acushnet Estuary Superfund clean-up. We have reviewed the draft documents that outline these proposals and offer the following comments:

Pilot Study on Dredging and Disposal Alternatives

The National Marine Fisheries Service (NMFS) has expressed concern that the proposed Superfund dredging of highly contaminated sediments in New Bedford Harbor could result in significant resuspension of polychlorinated biphenyls (PCBs) and heavy metals. This concern centers on the potential for increased dispersion of these toxic substances and the subsequent bioaccumulation by living marine resources. Thus, we agree that further evaluation of the feasibility of safely dredging and disposing of these highly contaminated sediments is necessary. It is vital that this pilot study be properly engineered and monitored so as to minimize adverse effects to aquatic organisms from dredging and disposal operations. Since the proposed pilot study is in an early stage of development, we anticipate that the following concerns and information gaps can be addressed during the study's formulation and environmental review.

In general, the NMFS is concerned that the pilot study, unless properly conducted and monitored, may cause a significant resuspension of contaminants that would degrade water quality beyond the immediate project vicinity. However, without detailed plans that outline dredging techniques, operations controls, and monitoring protocol, it is impossible to completely assess the environmental effects associated with this project. Therefore, it is impossible to provide specific comments at this time. We assume that there will be further opportunities for review as more detailed plans are developed. Since there appears to be uncertainty regarding contaminant release to both air and water, it may be appropriate to test dredging and disposal options in an area of New Bedford Harbor that is less contaminated. This would minimize the risk of a significant contaminant release during the pilot study.



The pilot study plan is to dredge about 25,000 cubic yards of contaminated sediment and to dispose of the material in a 4-10 acre diked disposal site and in a confined aquatic disposal site. The purpose of the plan is to assess contaminant release during dredging, engineering techniques to minimize contaminant release, and the feasibility of utilizing a confined aquatic disposal site. According to the plan, although confined aquatic disposal sites have been utilized in foreign countries, their efficacy and safety have not been verified in this country. Therefore, the pilot study is necessary to completely assess this disposal option. However, the proposed diked disposal site, a proven technology, has been sited within an intertidal mudflat area. This portion of the project would permanently destroy between 4 and 10 acres of intertidal aquatic habitat. We understand that the upland adjacent to this site is undeveloped, and therefore could potentially serve as at least part of the diked disposal area. We recommend that this and other upland locations for the diked disposal site be investigated.

The pilot study proposal lacks information on what engineering techniques will be employed to control contaminant release and physically minimize the affected area. Information on precisely where, and how, monitoring will be conducted is also necessary. Will monitoring be simply a process of data collection or will provisions be made to stop dredging in the event of significant PCB release? If the latter is the case, what levels will be considered acceptable on site and at downstream monitoring stations?

Wetland Report

Since the preferred disposal alternative for remedial action would eliminate much of the vegetated wetlands within the Acushnet River estuary, an evaluation of the functional integrity of this wetland ecosystem is planned to determine its "value." In general, salt marsh wetland functions include fish and wildlife habitat, food chain support, pollution attenuation, and shoreline stabilization. Preliminary observations of plant and animal communities of the project site wetlands made by Sanford Ecological Services in February 1985 do not indicate degradation. Vegetative cover of salt marsh wetlands approached 100%, plant growth was vigorous for all marsh species, and the height of salt marsh grasses suggested a high rate of productivity. Ribbed mussels (*Geukensia demissa*) were abundant, the amphipod (*Orchestia grillus*) and salt marsh snail (*Melampus bidentatus*) were ubiquitous, and some polychaete worms, isopods, and land snails were locally abundant. The study site showed "at least the expected levels of bird populations for an unpolluted site." Based on these preliminary observations, this site appears to be at least providing fish and wildlife habitat, food chain support through detrital export, and shoreline stabilization.

The planned wetland study will compare, both quantitatively and qualitatively, the project site wetland with a so-called "control" wetland located outside New Bedford Harbor. The study plan is broad: Parameters to be measured include primary productivity, benthic invertebrate populations, fisheries, and wildlife use. Although the study results would be interesting, and may be useful, it is unclear how these results will be used to assess this wetland's "value." The preliminary observations indicate that there will probably not

be large differences between the project and control wetlands biota. Further, any observed differences in productivity, species abundance and distribution, or diversity indices could be attributed to the differences in geographical location (protected inner harbor vs. outside harbor), salinity, substrate, water regime, sampling error, natural variability, or to pollution effects. If parameter observations for the project site wetland are lower than the control, do we conclude it is less valuable, and therefore suitable as a disposal area? Or conversely, if the "control" values are lower, do we conclude that New Bedford Harbor is excellent habitat? The main point here is that few, if any, conclusions can be derived from one year's sampling of complex, naturally variable ecosystems. So?

We consider the project site wetland to be functional aquatic habitat and believe its local value is augmented by the fact that it is the only major vegetated wetland complex in this developed estuary. Unless this wetland ecosystem is a significant source of PCBs and heavy metals, the NMFS will continue to recommend that an alternative disposal location that does not destroy aquatic habitat be utilized if dredging proves to be a feasible alternative for remedial action.

We recommend that the wetland study be streamlined to focus on the physical questions of PCB and heavy metal contamination of this wetland site; namely, (1) do the sediments of this wetland complex contain elevated levels of PCBs and heavy metals, and (2) are these contaminants being incorporated into resident plants and animals and exported out of the system? The first question can be assessed through chemical analysis of sediment cores taken within the project site. However, this information alone is not sufficient. It is possible that PCBs and heavy metals may be present at elevated levels in the salt marsh sediments, but may be physically trapped in the sediments and not biologically available to aquatic plants and animals. Therefore, it is necessary to analyze PCB and heavy metal levels in aboveground stalks of Spartina spp. and resident animals, such as Geukensia demissa, a detritivore, or Uca pugnax, a mud and detritus feeder, to determine if this wetland is a significant source of PCBs. Attributing the source of elevated contaminant levels may be difficult for animal species, but should be straightforward for the marsh grasses. We believe that this approach, utilized in conjunction with the preliminary wetland observations and other existing datasets, e.g., surface and groundwater relationships, will provide sufficient information to assess the effects of utilizing this wetland as a disposal site.

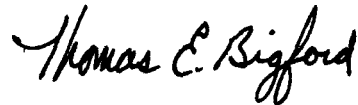
Summary and Recommendations

The NMFS requires additional information to adequately assess the environmental effects of the proposed pilot study. We understand that this project is in a preliminary stage and anticipate that further review will be possible as plans are developed. We recommend that alternative locations that do not destroy aquatic habitat be investigated for the diked disposal area. Regarding the proposed wetland study, we recommend the study be streamlined to address the physical questions of PCB and heavy metal contamination as outlined above.

We appreciate the opportunity to comment on these proposals. We are prepared to provide more detailed comments on the specific sections of the wetland study plan that relate to marine resources at the upcoming December 9 interagency meeting. Please keep us informed as additional information relative to the pilot study or the proposed remedial action becomes available.

For further coordination regarding this project, please contact Susan Mello at FTS 840-1323 or Comm. (617) 548-5123 ext. 323.

Sincerely,

A handwritten signature in black ink that reads "Thomas E. Bigford". The signature is written in a cursive style with a large, stylized 'T' and 'B'.

Thomas E. Bigford
Branch Chief